





# REPORT

TO THE

MANAGERS of the ROYAL INFIRMARY, by DAVID BRYCE,  
Architect, on the Comparative Capabilities of  
Watson's Hospital and Infirmary Grounds as a  
Site for the proposed New Royal Infirmary.

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THE remit is in the following terms :—“ I. Whether there is sufficient  
“ space on the ground belonging to the Managers in the neighbour-  
“ hood of the present site, with the addition of the ground proposed  
“ to be acquired opposite to the College, for rebuilding both Medical  
“ and Surgical Hospitals on a suitable plan, and assuming that the  
“ Surgical Hospital, if rebuilt, should contain accommodation for at  
“ least three hundred patients, and also, separate and several wards  
“ for special cases ?

“ II. What are the comparative capabilities of Watson's Hospital  
“ Grounds, as regards extent, situation, and nature of the soil ?

“ III. What are the capabilities of the Watson's Hospital Grounds  
“ as regards drainage ?

“ IV. What is his estimate of the cost of Watson's Hospital  
“ Grounds, and of draining the same efficiently ?

“ V. What are the comparative capabilities of the present site,  
“ supposing ground on the other side of the Pleasance, or the High  
“ School Yards to be acquired, and what would be the probable cost  
“ of the High School Yards, or of additional ground on the other  
“ side of the Pleasance ?”

I have gone very carefully into this matter of the best site for the  
Infirmary, and fully considered, by aid of surveys, levels, and other  
information, as to the value, &c., on the points remitted to me,—  
premising that I have gone throughout on the assumption, as the

remit infers, that the present Surgical Hospital is intended to be removed, and have now to report.

I find that the ground belonging to the Managers, with the addition of the property proposed to be acquired, opposite the College, will accommodate both the Medical and Surgical Hospitals; but it allows only 240 patients, in addition to the special wards to the Surgical Hospital, even building it three stories of wards high. The Lock Hospital, in this case, would be allowed to remain as it is; but in order to provide the necessary space for the New Surgical Hospital to contain 300, exclusive of special wards, the Fever Hospital, Washing House, and Drying Green, would require to be removed and built elsewhere.

The expense of the site for this scheme would be £44,000,—the estimated cost of the building opposite the College.

If the building occupied by the Secular School were acquired, the Surgical Hospital could be made to contain 264 patients, in addition to the special wards; and in this case, the Lock Hospital would remain, and the Pathological Classroom could be built on the site of the Nurses' House and Secular School, at an additional cost, for the site, of about £900, making the expense £44,900.

Neither of these schemes, it is ovident, affords sufficient space for the requirements of the New Infirmary, as described in point No. 1 of the remit, owing to the great additional number of beds required for the Surgical Hospital (viz., 300 in all, with several wards for special cases) although the building be raised to the height of three stories of wards, and the wards made of large size to accommodate 20 patients each, instead of being subdivided into small wards to hold six patients each, as was the instruction when the plans for the present Surgical Hospital were made.

I may state that almost all the London hospitals have three stories of wards, and the St Thomas Hospital, now being erected, has also three stories of wards above basement.

There are, however, several ways in which this accommodation may be suitably provided in the neighbourhood of the present site, which I will now describe:—

I. If the Lock Hospital be taken away, and the Surgical Hospital new buildings extended eastward over the site occupied by the Lock, making three of the pavilions three storeys high, and the other three two storeys high, 300 patients may be accommodated, leaving, besides, wards for special cases.

In this case, to give ample room, it would be necessary to take in

the High School Yards and the space behind down to the Cowgate; in order to accommodate the Lock Hospital and the Pathological Class-Room. The Small-Pox Hospital and Fever Hospital, and also the Washing House, Laundry, and Drying Green, would be built on a piece of ground on the east side of the Pleasance.

The expense of this site, estimated at a high commercial value, would be £75,645, which includes a cast-iron bridge across the Pleasance for Carriages, to connect the east and west sides, and the retaining walls rendered necessary by the difference of levels, the purchase of the buildings opposite the College, the property from the High School Yards to Cowgate, the secular school and property on west side of Pleasance, and property on east side of Pleasance,—the area of this site, including the Infirmary grounds, is about seven imperial acres.

This amount, however, might be reduced by selling ground for shops next the Cowgate which would be worth £2,300, making the nett cost of the site £73,345.

II. Another way in which proper accommodation might be had, and at less expense, for a site, would be to build the Surgical Hospital on a larger piece of ground to be acquired on the east side of the Pleasance, in which case the houses opposite the College would not be needed, as there would be sufficient room for the Medical and other Hospitals (except the Surgical) on the present site, with the High School Yards added, and the expense of rebuilding the Lock Hospital, which at present rates I estimate at £4,640, would be saved. See Sketch No. II.

The expense of the site, in this case including a cast-iron bridge for carriages as above, and also one for foot passengers across the Pleasance, and the necessary retaining walls, as well as a sum for a new road to the eastmost houses of St John's Hill, and for straightening the Pleasance, and making new road and footpaths from opposite new St Mary's Wynd (the space thus gained being added to the ground on east side of Pleasance), would be about £48,706. From this, however, falls to be deducted the return for shop ground in Cowgate, £2,300 as above, and the saving that would be effected in the construction of the buildings by keeping the present Lock Hospital, £4,640, making the virtual cost of this site £41,766. The area of this site is about  $8\frac{1}{2}$  imp. acres.

III. Or instead of taking in the High School Yards and Cowgate, a piece of ground further east, extending to the east boundary of St John's Hill, could be acquired, which would give ample room for all See Sketch No. III.

the necessary buildings. In this case, also, the buildings opposite the College would not be required, and the rebuilding of the Lock Hospital would be saved.

The expense of this site, including the two iron bridges across the Pleasance, the retaining walls, and the straightening of the Pleasance as above described, will be about £50,165, from which falls to be deducted, the saving effected by retaining the Lock Hospital, £4,640, making the whole sum £45,525.

The area of this site is about  $9\frac{1}{2}$  imp. acres.

Next, as to Watson's Hospital site.

I find that, to give the whole accommodation required for the Medical, Surgical, and other Hospitals of the Infirmary on the most suitable and approved plan, it will be necessary to take in that portion of ground to the west of Wharton Lane, lying between the ground belonging to the Governors of the Hospital at the north end and the Meadows.

The expense of acquiring the whole ground for this site, I estimate will be about £55,516, and its extent  $11\frac{1}{2}$  imp. acres nearly, which includes a strip of ground next the Meadows where a common drain runs, to which there is no good title.

This site is capable of being thoroughly well drained, either into the Cowgate drain, or the drain at the Old Corn Exchange, Grassmarket. I think the fall is too little to join the Lochrin drain, and, having had pits sunk to ascertain the nature of the soil, I find it to consist of an upper soil of black earth, 12 to 18 inches deep, a sub-soil of from 2 to 3 feet deep of friable clay, mixed with light sand, and under that, hard undurated clay, mixed with gritty sand. There was no appearance of water oozing in at either of the pits; any water that was, being merely from the surface. It would appear, therefore, that the soil is of a very retentive nature, which may account for dry rot having appeared in Watson's Hospital, and no dampness may be apprehended from ought but the surface soil, but this could be prevented by covering the whole area of the building, walls as well as space between, with asphalte and surface draining; and in addition, the banking, which will be necessary over almost all the surface, will, with proper draining, aid greatly in removing any tendency to damp that may exist.

The levels of the two sites are such that a considerable deal of terracing and underbuilding will be necessary in both cases, but the difference of expense will be so small that it need not enter into those calculations.

The expense of making a thoroughly efficient drain to the drain at Old Corn Exchange, and of building the retaining walls necessary for terracing the grounds, will be about £8,350.

The whole expense of this site will therefore stand thus—

Ground to be acquired, . . . . .	£55,516	0	0
Drain and retaining walls, . . . . .	8,350	0	0
	<hr/>		
	£63,866	0	0

From this falls to be deducted the value of ground at the Infirmary which would then be sold, and which I have taken at my former sum, although I have no doubt the improvements in the neighbourhood will increase its value, . . . . .

17,199 0 0

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Leaving £46,667 0 0

as the whole cost of this site.

A comparative state of these various amounts shews a difference of expense between Watson's Hospital and No. I site at the Infirmary grounds of £26,678 in favour of the Hospital site. A difference of £4,901 as between Watson's Hospital site and No. II site at the Infirmary in favour of No. II site; and a difference of £1,142 as between Watson's Hospital site and No. III at the Infirmary in favour of No. III site.

Having thus reported on the points remitted to me, I have only to add that I consider both of these sites well adapted for building an Infirmary on, in the middle of a large town, seeing that in both, sufficient extent of ground can be had; that both can be well drained; and that, if the one possesses a superiority in extent of surface, the other has the advantage in proximity to the medical school, and the poorer districts of the town from which patients come.

A comparison between the two as to salubrity hardly lies within my province, but I may state as to the levels, taking as a datum point the ordinance mark in the parapet wall opposite the High School, that the entrance to present Infirmary is about twenty-five feet higher, that the ground on which I propose to erect the Surgical Hospital in Scheme No. II is in the centre ten feet below that datum point, and that the centre of the buildings in Watson's Hospital site is about forty-two feet above that point.

For the better understanding the above report, I have appended tracings, coloured and figured, in reference to the proposed sites.

DAV. BRYCE.





## ROYAL INFIRMARY, EDINBURGH.

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THE MANAGERS OF THE ROYAL INFIRMARY, at their sederunt of date Monday, 16th January 1865, adopted the following motion, which had been tabled by one of their number, namely :—

“ That it be remitted to the House Committee to consider and report whether any, and if any what reductions can be made on the expenditure of the Institution, having due regard to the welfare of the patients.”

The House Committee, in obedience to the above remit, had accordingly the subject of the expenditure of the Institution under their consideration at a meeting held by them on Thursday the 19th of January 1865, when it was resolved to request a Sub-Committee of their number to make special inquiry into the matter, and to bring up a report on the subject ; the Sub-Committee to consist of the Rev. Mr Nicholson, Dr Craigie, and Thomas Russell, Esquire.

Your Sub-Committee, following out their instructions, have had various meetings, and have now to report as follows :—

Your Sub-Committee, for the purposes of the remit, applied for, and obtained possession of, reports of kindred Institutions elsewhere, with a view to ascertain the relative expense per patient in each ; and it was at first their intention to have prepared abstracts of the expenditure of several Infirmaries, but, on more mature consideration, it was deemed more expedient, with a view to simplify the matter, to limit the examination to one only, namely, that of Glasgow, which, in point of the number of patients, as well as in other respects, was considered the most fit for a fair comparison with that of Edinburgh.

Your Sub-Committee, accordingly, have examined minutely the details of expenditure connected with the two Institutions, and they have found, as the general result, that the expense incurred for each patient in Edinburgh is considerably in excess of that in Glasgow.

How that has arisen will be seen by an examination of the following details. These have been classed under three heads:—

1. Average Residence of Patients. ;
2. Articles of Maintenance.
3. Medical Expenditure, including Wines, Spirits, Malt Liquors, and similar articles.

1. *Average Residence.*—With a view to a more satisfactory comparison, instead of one year, the Reports of the two Institutions for four years have been examined, and the result is as follows:—

Edinburgh,	.....	1860-1,	33 days.
	.....	1861-2,	33½ „
	.....	1862-3,	32 „
	.....	1863-4,	31½ „
			130 days.

The average of these four years is thus seen to be 32½ days.

Glasgow,	.....	1861,	27½ days.
	.....	1862,	31 „
	.....	1863,	26 „
	.....	1864,	29 „
			113½ days.

[Average of these four years, 28¼ days.

Difference in favour of Glasgow, say 4 days.

Your Sub-Committee having made inquiries relative to the number of patients in the two Infirmaries, during the year 1864, resident above thirty days, the following is the result:—

Edinburgh—Number over 30 days, and under 100,	1483
..... over 100, and under 200,	139
..... over 200,	18

{ (Total number of patients treated  
to a conclusion, . . . . . 4285 ) } 1635

Glasgow—Number over 30 days, and under 100,	1359
..... over 100, and under 200,	42
..... over 200,	5

{ (Total number of Patients treated  
to a conclusion, . . . . . 6541) } 1406

## EXPENDITURE FOR MAINTENANCE and MEDICINE for 1863.

## EDINBURGH.

1. Expenditure under the head of Articles of Maintenance,	£6831
Number of Patients treated,	4340
Average for each,	31s. 5d.
2. Apothecary's Shop:—	
Expenditure,	£2073
Average for each Patient,	9s. 6d.
	<hr/>
	40s. 11d.

## GLASGOW.

1. Expenditure for Maintenance,	£5783
Number of Patients treated,	5662
Average for each,	20s. 5d.
2. Apothecary's Shop:—	
Expenditure,	£1626
Average for each,	5s. 9d.
	<hr/>
	26s. 2d.
Edinburgh, as above,	£2 0 11
Glasgow, do.	1 6 2
	<hr/>
Difference in favour of Glasgow,	£0 14 9

The expenditure in the Edinburgh Infirmary for the above year is thus shewn to be £6831 for articles of maintenance, and £2073 for medicine; in all, £8904. The average residence of the patients for the same year was 32 days. The sum thus expended involves a charge of £278 for each day, or £1112 for four days; which latter sum would have been saved to the Institution, could the average residence have been reduced with propriety to 28 days.

The average residence ten years ago, namely in the year 1854-5, was as high as 38 days. The special attention of the Managers having then been directed to this high rate, and that of the Medical Officers, through the Managers, having been solicited to the subject, the result has been that the average residence has been gradually reduced till now, when on an average of four years, it is only 32

days. It is for the medical gentlemen to consider whether, having, of course, due regard to the welfare of the patients, the average residence could be still farther reduced, and thus effect an additional saving to the funds of the Institution.

II. *Articles of Maintenance.*—The total amount expended under this head, as has already been shewn, is £6831 for Edinburgh, and £5783 for Glasgow. The following details are given, which may be useful for reference :—

	Edinburgh.	Glasgow.
	Fractions of a Pound excluded.	
Bread, . . . . .	£1243	£942
Butcher Meat, . . . . .	2519	1989
Oatmeal and Barley, . . . . .	175	315
Sweet Milk, . . . . .	550	684
Butter and Butter Milk, . . . . .	404	703
Tea and Coffee, . . . . .	537	132
Fowls and Eggs, . . . . .	356	436
Beer, . . . . .	161	41
Sundries, . . . . .	886	541
	<hr/>	<hr/>
	£6831	£5783
Difference in favour of . . . . .		1048
		<hr/>
		£6831
Number of Patients, . . . . .	4340	5662

III. *Medical Expenditure.*—Including Wine, Spirits, Malt Liquors, &c., the total amount expended under this head is £2073 in Edinburgh, and £1626 in Glasgow, and for reference the following details are given —

	Edinburgh.	Glasgow.
	Fractions excluded.	
Port Wine, . . . . .	£373	£215
Sherry, . . . . .	109	45
Whisky, . . . . .	39	107
Gin, . . . . .	58	11
Brandy, . . . . .	191	101
Lemonade, . . . . .	105	85
Porter and Ale, . . . . .	74	65
	<hr/>	<hr/>
	949	629
Sundries, . . . . .	1124	997
	<hr/>	<hr/>
	£2073	£1626
Difference in favour of . . . . .		447
		<hr/>
		£2073

Royal Infirmary  
Edinburgh Dec 22/65

Sir

I am directed by the  
Managers of the Royal  
Infirmary to send you copies  
of Reports herewith enclosed,  
and to request that you forward  
the Managers by the 20<sup>th</sup>  
January 1866, any remarks  
you may wish to make  
on those reports

I am

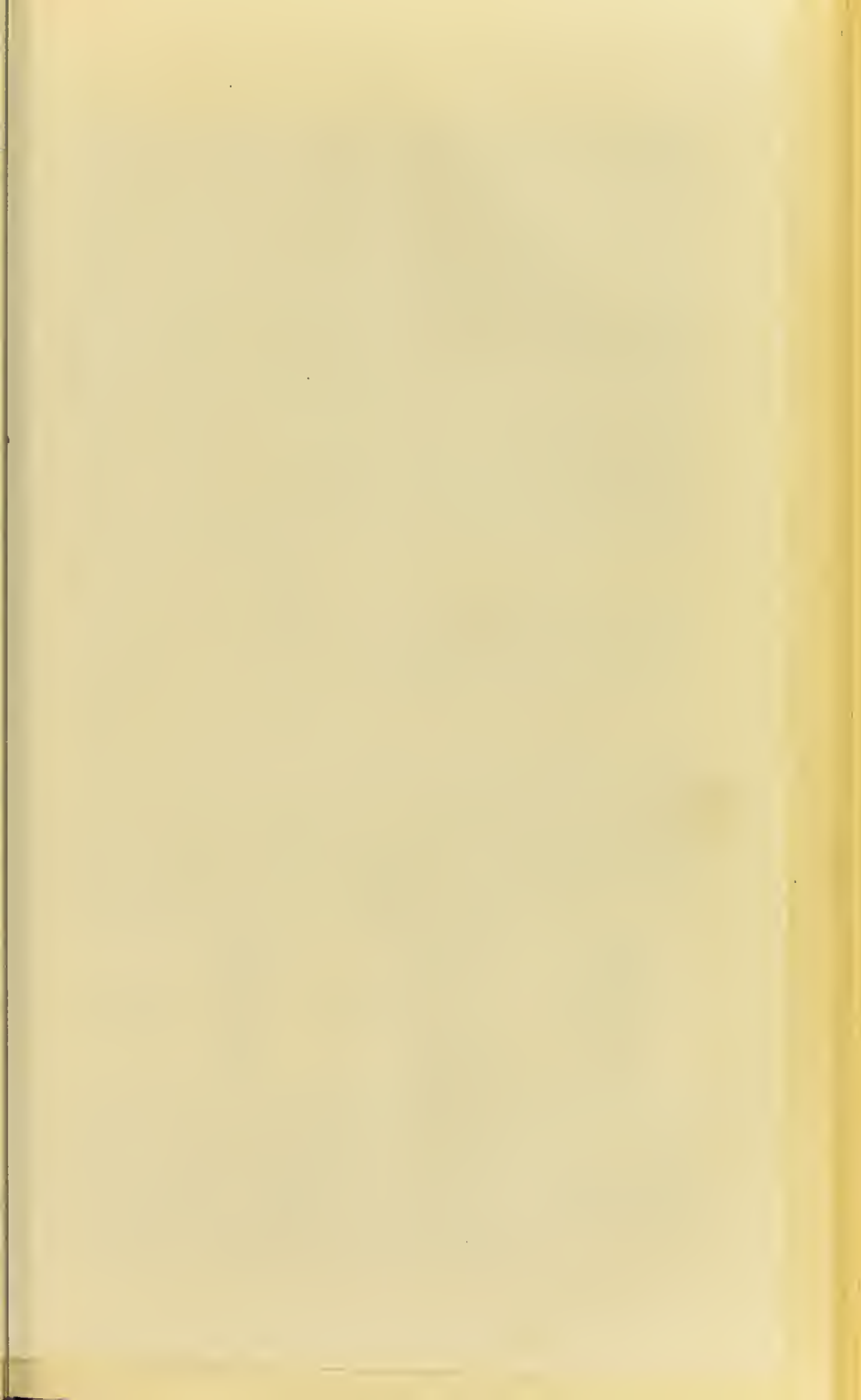
Sir

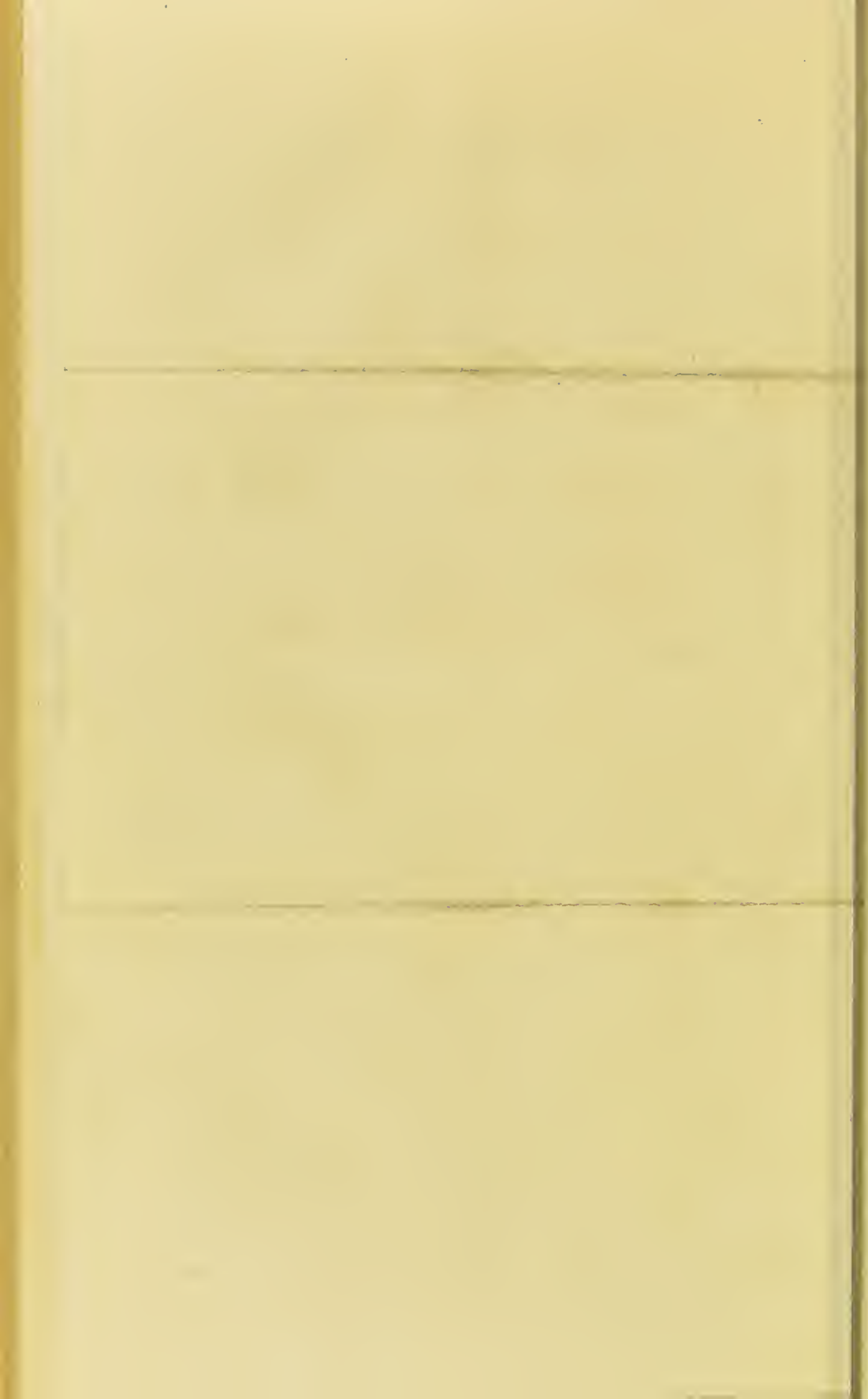
Your obed<sup>t</sup> Serv<sup>t</sup>

Wm Bell

Wm Bell









It is sometimes alleged that the increased expenditure for patients in the Edinburgh Infirmary arises in part from the larger number, proportionally, from the country, than are to be found in kindred Institutions, whose average period of residence, it is supposed, and probably with truth, exceeds that of those from the city and neighbourhood. This allegation has been considered, and it has been found that the number of cases from the country is nearly equal, in so far as Edinburgh and Glasgow are concerned, the numbers respectively being 1766 in the former, and 1698 in the latter. There is this difference, which it is but fair to state, that those patients who are sent from the country to Edinburgh, are, in larger proportion, from remote places, as compared with those who find their way to Glasgow, whose average residence, it may be assumed, exceeds that of those from places nearer the city. The extra expenditure, however, on this account, from the comparatively limited number of such cases, can affect the general result only to a limited extent.

It has also been alleged, as accounting to some extent for the increased period of residence in the Edinburgh Infirmary, that there are a larger number, proportionally, of Chronic cases, involving a longer course of treatment in that Institution than in Glasgow or other Infirmarys. This point too has been considered, but is reserved for more mature examination.

It may be asked, What is the relative effect of the treatment pursued in the two institutions, as bearing on the mortality of the patients? and the question is a pertinent one. The following table shews the rate of mortality in each, from which it will be seen that the average number of deaths per cent. is nearly the same, ranging, as it does, from about 10 to  $11\frac{1}{2}$  per cent. in both Infirmarys.

Edinburgh, 1861-2,	Patients, 3900,	Died, 409.
,, 1862-3,	,, 4340,	,, 493.
,, 1863-4,	,, 4285,	,, 513.
Glasgow, 1862.	Patients, 5013,	Died, 486.
,, 1863,	,, 5662,	,, 646.
,, 1864,	,, 6541,	,, 763.

It has been shewn that the expenditure for each patient in Edinburgh exceeds that in Glasgow to the extent of 14s. 9d. The importance of this investigation is thus rendered apparent, for the extra sum specified as applicable to 4340 patients involves an outlay of, in round numbers, £3000 above that which is expended on an equal number of patients in the Glasgow Infirmary.

Your Sub-Committee deem it unnecessary to make any **extended** remarks on the preceding details. They are satisfied that the information thus communicated will secure that attention which it deserves, not only from the Managers, but also from the Medical Officers, and other officials connected with the Institution.

It has been deemed expedient to direct the attention of the medical gentlemen connected with the Infirmary to the foregoing details; and while the Managers are desirous that a wise economy should be observed in the administration of its affairs, an object which they doubt not is also kept in view by the Medical Officers, nothing is farther from the intention of the Board than to interfere in the slightest degree with the course of treatment pursued by them, persuaded as they are that the wide celebrity of the Institution is in a great degree owing to the very high reputation of its medical functionaries.

## SUPPLEMENTAL REPORT.

THE SUB-COMMITTEE, under remit from the House Committee on the subject of the Expenditure of the Infirmary, have now to submit their Supplemental Report.

Your Sub-Committee, in pursuance of the recommendation of the Managers, paid a visit to the Glasgow Infirmary on 26th July; and it gives them pleasure to state that they were very kindly received by the Managers and Medical Officers of the Institution. Every facility was afforded your representatives to inspect the books, stores, and apartments of the Infirmary; and abundant opportunities were given to elicit information, and otherwise to promote the object of the deputation in going thither.

To Drs Gairdner and R. Scott Orr, as well as the Managers and Superintendent, your Sub-Committee feel much indebted for efficient aid rendered to them in the prosecution of their mission. Several of the suggestions contained in the present Report are founded on information thus derived.

In the previous Report of your Sub-Committee, it was shewn that the expenditure in the Edinburgh Infirmary much exceeds that of the Glasgow Institution, and it was, in great measure, accounted for by the difference of the amount expended on leading articles under the two heads, "Articles of Maintenance" and "Medical Expenditure." That statement brought out the fact that Edinburgh, under the first head, expended £6831 on 4340 patients; while Glasgow, on 5662 patients, being 1322 *more* than Edinburgh, expended only £5783, or £1048 *less* than that of Edinburgh. Under the second head, the expenditure respectively was, Edinburgh, £2073; Glasgow, £1626; and the difference in favour of Glasgow was, to a large extent, accounted for under the head of stimulants.

The Reports of the two Institutions for the last year have been

farther analysed, and it appears that other items of expenditure are greatly in excess in Edinburgh. Take the following:—

Medicines.....	Edinburgh,	£518
„	Glasgow,	371
Surgical Instruments...	Edinburgh,	138
„	Glasgow,	56
Lint.....	Edinburgh,	207
„	Glasgow,	124

It is proper to note that the like disparity exists in previous years; and it accordingly appears that the total amount expended, excluding fractions, under the above heads, during the years 1861, 1862, and 1863, was, in Edinburgh, £2132; Glasgow, £1430; and, if last year is added, the amount respectively is, Edinburgh, £2995; Glasgow, £1981; shewing a difference in favour of the latter of £1014.

One of the points of investigation had reference to the allegation that there are a larger number of chronic cases, involving a longer course of treatment, in the Edinburgh Infirmary than in that of Glasgow. Inquiries have accordingly been made on this subject, and this result has been arrived at, that there does not appear to be any essential difference in the chronic cases treated in the two Institutions. In order that, in future, there may be proper and readily-accessible grounds for comparison, as it regards not only the above, but all classes of disease, it is recommended that complete lists of diseases treated in the Infirmary be published annually, and appended to the reports of the Managers, in conformity with the practice which prevails in kindred Institutions.

The attention of your Sub-Committee has been directed to the fact that patients in some cases are detained longer in the Infirmary than necessary, for want of sufficient clothing. A similar state of matters having been found to exist in other Infirmaries, a remedy has been sought in these by the establishment of committees of ladies, who charge themselves to supply the want; and the result, wherever the plan has been adopted, has proved very beneficial. All that is necessary to be done on the part of the Managers is simply to give their sanction to the scheme, and to grant the use of an apartment in the Infirmary as a store-room for the reception of clothes. The entire management, as elsewhere, will devolve on the ladies, assisted by the matron, and, it may be, by the chaplains.

Your Sub-Committee have had under their consideration the subject of pauper patients, and they have to submit that the charge made for them, although higher than formerly, is still too low. The charge for maintenance and treatment of pauper patients is at present 1s. 2d. per day. Now, that sum does not cover the cost incurred merely for provisions and medicine, to the exclusion of other items of expenditure. Restricted to expenditure under the two heads specified the charge should not be less than 1s. 4d. a-day. If the expenditure under other heads is added, namely for coals and gas, salaries and wages, and incidental expenses, but not including house furnishings, repairs, &c, the charge to Parochial Boards might with justice be made 2s. per day. The charge for paupers in Glasgow Infirmary is 40s. per patient, which, with its reduced scale of expenditure, is at the rate of about 1s. 6d. per day. These facts are laid before the Managers, and it is for them to decide what charge for pauper patients should now be made. It ought to be borne in mind that Parochial Boards are enjoined by the Board of Supervision to pay to the funds of the Infirmary an equitable sum for the expenses incurred. Your Committee do not see any good reason why the supporters of the Infirmary should be burdened with any part of the expense of maintaining pauper patients, whose interests are provided for by a legal assessment affecting the entire community. The friends of the Institution are thus, by such an arrangement, *doubly* burdened.

The system of book-keeping in operation at the Glasgow Infirmary appears to your Committee to provide an efficient check on the introductions of the officials engaged in the distribution of the stores for the use of the patients. Your Committee have been obligingly furnished with a sheet containing an abstract of the scheme, shewing its working for one month, and to it the Managers are referred, that they may be able to judge of its utility, and with a view to its adoption if approved.

Your Sub-Committee, in the course of their inquiries, have been much impressed with the necessity of having a complete set of Regulations prepared for the government of the Infirmary. They feel indeed that they can scarcely attach too much importance to this matter, as the successful working of the Institution must evidently greatly depend on the duties of all the officers and servants being strictly defined, and each instructed in terms thereof. The attention, therefore, of the Managers is specially and earnestly directed to this subject. Your Sub-Committee have been furnished with a copy of

the Glasgow regulations. These have been recently revised and enlarged, some of which, especially as it regards the office of House Steward, not to mention others, appear worthy of particular attention.

*December 1865.*

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PRELIMINARY STATEMENT regarding a proposed HALL or COLLEGE for the Reception of STUDENTS resorting to the UNIVERSITY OF EDINBURGH.

The propriety and advantage of providing a Hall or College for the Students of the University, in which they might have Board and Lodging, together with Tutorial assistance in preparing for their Examinations, and domestic supervision of their morals and health, has long been generally admitted.

The Matriculated Students of the current Session number 1429. Of these, nearly 400 are registered as belonging to Edinburgh; the remaining 1029 (for whom provision is needed) are assumed to be in lodgings, and belong to the Countries and Faculties as subjoined:—

Country of Students presumably in Lodgings.	FACULTY.				TOTAL.
	Medicine.	Arts.	Divinity.	Law.	
Counties of Scotland, . . . .	170	344	55	173	742
England, Wales, Ireland, . . .	130	28	...	...	158
Colonies and Foreign States, . .	57	36	2	5	100
Total University Students presumably in Lodgings in Edinburgh, .	357	408	57	178	1000

From this Table it appears that the greater proportion of the Scottish students in lodgings belong to Arts—being nearly equal to Medicine and Law conjointly; but of the other countries the greater proportion belong to Medicine.

*Requisites.*—The requisites for the proposed Hall or College are premises suitably situate near the College, to be either built, purchased, or rented, containing Students' Apartments, with appropriate furniture and fittings, Tutors' Rooms, a common Dining-Hall (and *Reading-Room*), a Dwelling for a resident Warden or Head-Tutor, to act also as Treasurer, and accommodation for Kitchens and Servants. A plot of Shrubbery or Garden would also be almost a necessity. A Dining-Hall in connexion with the College, for Students in general, would be useful, and already exists as an Academic Institution elsewhere.

*Ways and Means.*—The ways and means for raising the required Funds are chiefly two, viz.,—1. As a commercial enterprise; 2. As a public institution, founded and endowed by public subscription or private gifts.

AS A COMMERCIAL ENTERPRISE.—It is believed that a Hall or College might be established without difficulty by means of a Joint-Stock Company. A similar enterprise, on a small scale, “The St. Leonard’s Hall Company (Limited),” was begun two years ago at St. Andrews, and has had encouraging success. It now contains 16 Students, who pay from £63 to £75 per session of six months. All the accommodation was taken up previously to the opening of the current Session, and about half a dozen applications had to be refused. The number of Matriculated Students at St. Andrews is under 140. If a like proportion of the Edinburgh Students were to desire College residence, the number of applicants would be 220. Or if only 10 per cent. of those presumably in lodgings were to seek it, accommodation would be needed for 100.

The capital required would vary in amount with the site, style of building, whether rented or built, number to be provided for, extent of accommodation for each Student, and other elements of cost. At the St. Leonard’s Hall there are only single and double-bedded rooms, in Edinburgh it would be advisable to provide sitting-rooms for one Student, or for joint occupancy by two or three. To rent and alter premises would be more expensive than to build, and a large institution more economical than a small. In the opinion of a well-known builder, a Hall or College for 50 Students would probably cost to build and furnish £13,000 ; for 100, £25,000 to £28,000 ; for 150, £30,000 to £35,000.

Approximate Estimate for a Hall for 50 Students, occupied nine months.

<i>Disbursements.</i>	
Dividends on Capital of £13,000 at 5 per cent, . . . . .	£650 0 0
Rates, Taxes, Insurance, etc., estimated at 25 per cent. of the nett Rental of £650, . . . . .	162 0 0
Agency Charges, . . . . .	65 0 0
Warden, £250, two Tutors, £250, . . . . .	500 0 0
Depreciation and Repairs, . . . . .	300 0 0
Board, fire, light, attendance, etc., for 50 Students, at £30 each for nine months, . . . . .	1,500 0 0
Contingencies, . . . . .	50 0 0
Total annual Disbursements, . . . . .	£3,227 0 0
<i>Receipts.</i>	
Payments (always in advance) from 50 Students, for board, lodging, tutors’ fees, fire, light, and attendance, for the winter and sum- mer sessions, at an average of £70 each, . . . . .	£3,500 0 0
Deduct Disbursements, . . . . .	3,227 0 0
Surplus Profits after paying all charges, . . . . .	£273 0 0

A Hall for 100 Students. So large a building might not be filled during the summer session, although it probably would during the winter. The subjoined estimate assumes it will be only half-filled during the summer, and established at a cost of £25,000.



Approximate Estimate for 100 Students, the Hall being only half-occupied during summer.

*Disbursements.*

Dividends on Capital Stock of £25,000 at 5 per cent., . . . . .	£1,250	0	0
Rates, taxes, insurance, etc., estimated at 25 per cent. of nett rental of £1250, . . . . .	315	0	0
Agency charges, . . . . .	100	0	0
Warden, £300; four Tutors, £500, . . . . .	800	0	0
Cost of board, fire, light, attendance, etc., of 50 Students for six months at £20, . . . . .	1,000	0	0
Do. do. for 50 Students for nine months at £30, . . . . .	1,500	0	0
Depreciation Fund and Repairs . . . . .	400	0	0
Contingencies (5 per cent. on Disbursements) . . . . .	205	0	0
Total estimated Disbursements, . . . . .	£5,570	0	0

*Receipts.*

From 50 Students for board, lodging, tutors' fees, etc., for winter session, at an average of £48, . . . . .	£2,400	0	0
From 50 Students for do., do., for both winter and summer sessions, at an average of £68, . . . . .	3,400	0	0
	£5,800	0	0
Deduct Disbursements, . . . . .	5,570	0	0
Leaving a surplus profit of . . . . .	£230	0	0

The lowest payments would be £36 to £40 per winter session. The common Dining-Hall of the Hall or College might be made available for the Students in general, and as it could be easily worked, and at little outlay, a good profit might be expected.

If the Hall or College were fully occupied during both the winter and summer sessions, the charge might be fixed at an average of £63 for both terms, and there would still be an estimated surplus of £80. And at a higher rate of charge, namely, £50 for the winter session, and £70 for both winter and summer, if only half occupied during the summer the surplus returns would amount to £430; and if fully occupied during both winter and summer at an average charge of £70, would be £880.

The chief element of uncertainty in these estimates, is as to the amount of capital required, but whatever the excess over the estimate may be, an average additional charge on each rental of 6d. per week, or £1 per nine months (equal to £100), will meet an addition of £2000 at 5 per cent., or an excess over the estimate of 8 per cent.

AS A PUBLIC INSTITUTION.—If the Hall or College were founded on this principle, the required capital would be most readily raised by a system of Foundation Scholarships. Funds for the establishment of these would be available from various sources:—

1. Annual subscriptions and donations from the general public to establish *University* Foundation Scholarships, to be open to competition to all

Matriculated Students of the University passing the examinations for graduation. Sums of any amount could be thus received.

2. Gifts from private individuals for founding *Presentation* Scholarships, with the right of presentation [for two or three lives], and thereafter to devolve to the public as University Scholarships.

3. Contributions from High Schools, Academics, and Collegiate Establishments for youth, desiring to found Scholarships or Exhibitions in perpetuity for their own Scholars, in connexion with the University.

4. Contributions for a like purpose from the Colonics, some of which now send Students to Edinburgh at the public expense, and which would thus have the opportunity of bringing their own rising Universities and Colleges into closer relation with the University of Edinburgh.

5. Endowments of Scholarships, and, perhaps, of Fellowships *in memoriam*. The Hall or College itself might be appropriately dedicated to the memory of the late Prince Consort.

The Funds thus contributed as foundation capital for Foundation Scholarships, should bear an estimated interest of [ $3\frac{3}{4}$ ] per cent. in perpetuity, no Scholarship to be of less annual value than [£20], representing foundation capital to the amount of [£533, 13s. 4d.] The Scholars to be free from tutors' fees, being equal to a deduction of £5 from the payments for nine months. The deficiency in foundation capital to be supplied by private enterprise, as loan capital, bearing a dividend of [ $4\frac{1}{2}$ ] per cent. If it be determined to provide for 150 Students, and the foundation capital equals one-third of the whole amount required, the estimates would be as follows on an outlay of £30,000 :—

<i>Disbursements for 150 Students (Half-occupancy during the Summer.)</i>		
15 Scholarships, of average value of £25 each, charged on £10,000 foundation capital, at $3\frac{3}{4}$ per cent.,		£375 0 0
Dividend on £20,000 loan-capital at $4\frac{1}{2}$ per cent.,		900 0 0
Rates, taxes, insurance, &c., estimated at 25 per cent of a nett rental of £1500,		375 0 0
Agency expenses,		125 0 0
Tutors' fees for 15 Foundation Scholars at £5 each,		75 0 0
Warden and Tutors,		1,000 0 0
Cost of board, fire, light, and attendance of 75 Students for six months, at £20 each,		1,500 0 0
Do. do. for 75 Students for nine months, at £30 each,		2,250 0 0
Depreciation Fund, £500, Contingencies, £275,		775 0 0
Total annual Disbursements,		<u>£7,375 0 0</u>

*Receipts.*

Payments from 75 Students for board, lodging, fire, light, and tutors' fees, at £40 for six months,		£3,000 0 0
Do. from 75 Students for do. do., at £60 for nine months,		4,500 0 0
		<u>£7,500 0 0</u>
Deduct Disbursements, as above,		7,375 0 0
Leaving a surplus Revenue of		<u>£125 0 0</u>

The lower charges for the winter session would be about £35, and without tutors' fees £30.

If the Hall or College were fully occupied by 150 Students during both the winter and summer sessions, and the average charge for each was £52 for nine months, the estimated surplus revenue would be £275. As the lower scale of charge would not exceed £48, it is probable the College would be fully occupied.

If the cost exceeded the estimate by £3000, or 10 per cent., an additional charge of £1 for the nine months would produce 5 per cent. on that sum. At a cost of £35,000, with the College only half occupied in summer, the average charge of £42 for the winter, and £63 for both winter and summer, would leave a surplus revenue of £125; or, if fully occupied during both sessions, an average of £53 would produce a surplus of £200. These estimates are made on the calculation that there would be £12,000 foundation capital at  $3\frac{3}{4}$  per cent., and £23,000 loan capital at 5 per cent. The whole of the latter would not, however, be needed in the first instance, because so large a building would not require to be completed at once, and might be overtaken by the contributions to Foundation Scholarships.

As, by this plan, the surplus revenue would go to increase the endowment of the Foundation Scholarships, it would be necessary to fix a limit to the amount of each [at £60], and appropriate the balance to founding new Scholarships of the same class. When the loan was paid off, by means of subscriptions, donations, and surplus revenue, the Scholarships, on an estimated rental of £1500, at an average annual value of £50, would number 30. With the view, however, of increasing the accommodation for Students, it would not be advisable to pay off the loan debt, but rather, as the demand for Collegiate residence increased, to appropriate surplus revenues and additional Contributions and Endowments to the extension of the College, and an increase in the number of Scholarships.

*The Site.*—It is believed that a suitable site may be obtained near the Industrial Museum, in which case the contemplated Hall or College would form part of a great public improvement; or if not there, in the immediate neighbourhood. The selection of the site will, taken alone, make a difference in the estimated cost of from five to twenty-five per cent.





